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ALASKA'S FORESTS

Alaska has two distinct classes of forest growth. One is the "coast forest," which is a northward extension of the forest type along the coast of Oregon, Washington, and British Columbia. It is the prevailing type in southeastern Alaska and the Prince William Sound region. The other is the "interior forest," which occurs over most of the extensive central plateau region, principally in the large river drainages. Most of the coast forests are in the national-forest system, but the interior forests stand largely on the open public domain, which is administered by the Bureau of Land Management, U. S. Department of the Interior.

THE NATIONAL FORESTS

Natural resources are the foundation of our national economy. Upon the soil, wood, water, grass, minerals, and other basic resources, all agriculture, industry, and trade depend. Only as those resources are maintained and wisely used will our nation progress and prosper. Resources that are nonrenewable must be carefully husbanded; those that are renewable must be continuously renewed.

The major resources of our national forests are water, timber, forage, wildlife, and recreation. There are others. For example, many forests have deposits of minerals, which, except in certain special areas, may be utilized under the provisions of several acts.

The national forests are not locked up as "reserves." Instead, all of their resources are so managed as to provide the maximum continuous production for use. This is done under coordinated plans of managing the different resources, known as "multiple use." Rangers and other field officers are made responsible for developing and carrying out these plans, so that prompt service is given to the people in each locality.

The two national forests in Alaska are administered by the Forest Service, U. S. Department of Agriculture, with a regional forester and staff resident in Alaska. These forests were reserved from the open public land area between 1902 and 1909. They comprise a total of 20,742,416 acres. The Tongass National Forest (16,016,806 acres) includes the greater part of southeastern Alaska. The Chugach National Forest (4,725,610 acres) covers the timber belt on the shores of Prince William Sound and part of the adjacent Kenai Peninsula. They are managed primarily for continuous production of timber crops, although all of their resources are available for use.

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Lands valuable for agriculture, mining, industrial plants, homesites, and townsites may be patented; areas needed for waterpower development and other special purposes may be occupied under permit. Public recreation facilities are provided; hunting and fishing are fostered; and sites may be made available, by permit, for summer homes and resorts. Cutting rights for national-forest stumpage are sold to individuals and to timber-processing industries. The terms of contracts for the sale of national-forest timber and of permits for use of national-forest land can be obtained from the regional forester at Juneau or from the various division supervisors at Ketchikan, Juneau, Cordova, and Seward. Only unusual matters involving questions of general policy need be referred to the Chief's Office in Washington, D. C.

TIMBER

The estimated timber stand in the national forests is: Tongass, 78,500,000,000 board-feet; Chugach, 6,260,000,000 board-feet. The total stand is made up of western hemlock, 73 percent; Sitka spruce, 21 percent; western redcedar, 3 percent; and Alaska-cedar, 3 percent. These figures are based on the only complete estimates that have been compiled. They should be reduced by an amount not yet known to adjust for inaccessibility and stands too light or sizes too small for use under existing market conditions. The commercial timber fringes the shores of the mainland and hundreds of islands. About 75 percent of this timber is within 2-1/2 miles of tidewater along the 9,000 miles of island and mainland shoreline.

Western hemlock, the predominant species, is an excellent wood for a great variety of lumber uses. It is moderately strong, light in weight when dry, fine-grained, and light in color. It is especially good for flooring. Superior to eastern hemlock as a pulping wood, it is the foundation of the extensive bleached and unbleached sulfite pulp industry in Oregon, Washington, and British Columbia. Much of the bleached pulp goes into rayon and cellophane.

Sitka spruce supplies most of the present Alaskan requirements for sawlogs, and is manufactured into all the usual forms of lumber. Light in weight, tough, and strong, it is widely used for many specialties. A good all-purpose pulping wood, it compares favorably with white spruce, the standard pulpwood of eastern North America.

Western redcedar is used for siding, roof lumber, shingles, and poles. Light, close-grained, and fine-textured, western redcedar is very easy to work and is high in decay resistance, ranking with Port-Orford-cedar, redwood, and baldcypress (southern cypress). It may also be used for sulfate pulp.

Alaska-cedar (also called yellow-cedar), which is not cut extensively at present, is highly prized for specialized uses. Closely related to the Port-Orford-cedar of Oregon, Alaska-cedar has a fine texture, is

easy to work, takes a beautiful finish, and is extremely durable. Its pronounced cedar odor makes it valuable for clothes closets and chests. Unfortunately it is scattered in occurrence and therefore is costly to log in an operation removing only cedar.

Timber Sales

The timber cut during the fiscal year 1952 totaled 61,892,000 board-feet. Stumpage rates currently being received per thousand feet board measure are: Spruce $2.50 - $5.00, hemlock $1.00 - $2.00, and cedar $1.00 - $1.50.

Residents and miners may take timber free of charge for personal use, but not for resale. During 1951, 1,093 such users cut an estimated 364,000 board-feet.

Virtually all timber used commercially in southeastern Alaska today is purchased from the Tongass National Forest. The cut in 1952 was about 8 percent of the amount that could be cut annually without endangering the future supply. Most of the timber goes into lumber but some is utilized in the round for fish-trap and wharf piling. Ketchikan has a modern electric-driven sawmill of 100,000 board-feet capacity per 8-hour shift. Juneau has a sawmill of similar capacity and a modern, new plywood plant. Petersburg, Sitka, Whittier, and other communities have smaller mills.

LUMBER PRODUCTION

The production of lumber in Alaska has tended to increase gradually in recent years, as shown by the table on page 4. Sharp increases in a few years were due mainly to military uses of lumber and round timbers.

KETCHIKAN PULP MILL

Plant construction for the Ketchikan Pulp Mill was started in June 1952, and operation is expected to begin by July 1954. The mill is designed to produce high-grade dissolving wood pulp, of the type suitable for processing into rayon and cellophane. The Ketchikan Pulp Company is jointly controlled by the Puget Sound Pulp and Timber Co. of Bellingham, Wash., and the American Viscose Co. of Philadelphia.

The company was the successful bidder on an offering of 1-1/2 billion cubic feet of pulp timber in August 1948. This timber, to be cut in the Tongass National Forest, is enough to supply a pulp mill of 525-ton daily capacity for 50 years. Payment for the timber will be made as cutting proceeds. The initial plant installation is for 300 tons a day, which may be increased to 525 tons a day within 10 years. The project involves an investment of over $50,000,000.

The plant site is at Ward Cove, 6-1/2 miles north of Ketchikan on Revillagigedo Island. A high-standard, bituminous-surfaced forest highway connects the plant with Ketchikan.

Total Production of Lumber and Shingles in Alaska, and Timber Cut From National Forests

Year	Timber cut from National Forests (fiscal years)	Lumber sawed				Number of sawmills	Shingles produced
		Total	Spruce	Hemlock	Cedar and other species[1]		
	Thousand board-feet					Number	Squares
1940	34,004	27,792	22,137	4,635	1,020	25	2,196
1941	29,536	36,547	28,064	7,515	968	27	3,718
1942	39,855	40,590	34,832	4,635	1,123	37	3,398
1943	40,861	62,603	48,633	13,355	615	29	1,117
1944	110,977	67,414	55,237	11,314	863	29	1,250
1945	71,635	59,056	51,623	6,258	1,175	35	565
1946	50,133	57,506	47,487	8,710	1,309	41	3,295
1947	68,095	80,480	69,105	9,872	1,503	40	1,186
1948	99,275	58,181	43,976	12,432	1,773	55	1,365
1949	73,261	48,541	39,024	8,647	870	69	1,862
1950	56,162	61,936	54,582	6,100	1,254	79	..
1951	60,122	67,317	47,400	8,400	217	93	..

[1] Data for cedar and other species include shingles converted to the equivalent in board-feet.

Harmful effluents will be utilized at the plant, thereby eliminating the possibility of contamination of the water and damage to the local commercial fish resources. Timber cutting will be done as prescribed by the Forest Service; salmon spawning streams and recreational and scenic features will be protected.

WATERPOWER

With heavy rainfall and many high "hanging" lakes near tidewater, the national forests have abundant waterpower in units of suitable size for individual industrial plants. The best sites range from about 5,000 to 30,000 horsepower capacity. Enough waterpower exists in southeastern Alaska for the development of 1,000,000 year-round horsepower. Only 50 power sites with an aggregate capacity of 22,000 horsepower have been developed and put into use.

Under the Federal Water Power Act power sites can be leased for periods up to 50 years, and the license is renewable.

POTENTIAL FOREST INDUSTRIES IN ALASKA

Important advantages for timber industries in southeastern Alaska are the almost year-round logging season, all-year water transportation in parts of the area for logs from woods to mill and for the finished product from the mill to market, the location of most of the timber within 2-1/2 miles of tidewater, good plant sites, and potential waterpower for the conversion of raw material. The mild climate permits operation of mills throughout the year.

The national forests contain enough timber for a huge industrial development, including pulp and paper mills, plywood plants, sawmills, shingle mills, and smaller industries. Timber stands principally valuable for lumber manufacture are not extensive, but an enormous supply of material suitable for pulp is available. Conditions are particularly favorable for the manufacture of high-grade chemical pulp and newsprint paper.

The Tongass Forest has sufficient timber for the perpetual support of at least four pulp mills equal in size to the Ketchikan plant, under the sustained yield system of timber management which the Forest Service will apply. Active interest is being shown in the location of similar pulp mills at Juneau, Sitka, and other sites in southeastern Alaska.

OTHER DEVELOPMENTS

Recreation

The National Forests include some of the best recreation areas in Alaska. They embrace an intricate system of narrow, navigable protected waterways, hundreds of miles in length, and flanked with high, rugged mountains rising from the water's edge. Some of the waterways have the winding courses and sheer rock walls that characterize the fiords of Norway. Blue-hued glaciers flow down a number of the canyons at the heads of the fiords in the coast mountains to discharge into the sea or melt away when they reach the plains at the valley outlets. Huge sections of the national forest are in primitive condition, without evidence of human occupation or use.

Hunters with gun and camera from many parts of the world visit this area to hunt or view its large big-game animals, notably the Alaskan brown bear, the largest carnivorous land mammal in the world. Contrary to popular belief, big game are not abundant, although they may seem so because they tend to concentrate where food and other habitat conditions are favorable. When numbers of bear, moose, sheep, goats, and other big game are considered with regard to the total land area, the populations are comparatively low. Where game are found near waterways they may be approached without undue effort, but any search for game in wet, timbered, or rough country may become an arduous task. As in the States, seasons, bag limits, and other regulations are designed to afford removals without depleting the breeding stock.

Clear mountain streams and lakes are among the attractions of this area. They may support resident populations of trout, and during migrations and spawning periods the fresh waters that are open to sea-going species may also harbor the larger sea-run trout and several species of salmon. In the trout group would be cutthroat, Dolly Varden, and rainbow-steelhead. Lake fishing is often good, but because of the purity of the water the fish may be underfed and slender of body. To promote fishing use and the watching of migratory fish, the Forest Service has constructed trails, shelters, and at certain falls, observation stands. Sport fishing for salmon in salt-water channels and bays is a popular and growing form of recreation.

A number of areas have been developed by the Forest Service for picnic use, swimming, and other forms of outdoor recreation. Community buildings, picnic shelters, stoves, and bathhouses have been constructed. Good sites are available for both large and small resorts. A number of winter recreation developments have been constructed adjacent to communities. These consist of ski trails, downhill courses, and skating facilities.

Fur Farming

Fur farming has had an interesting and checkered history over the past quarter century. When prices of long-hair furs were up, fox farming on islands was a common practice. Generally, small islands were leased by the Forest Service to a fur farmer who then permitted his foxes a free run of the island, but supplied enough food to sustain high numbers of them. In recent years free running of foxes has proved unprofitable and the industry waned. Pen rearing where breeding, feeding, and parasites could be controlled has usually been favored.

Agriculture

The national-forest areas are made up largely of mountainous lands unsuitable for agriculture. Extensive potential farm lands in the same regions were excluded from the original national-forest withdrawals, or were eliminated from the forests at an early date. About 360 acres have been listed for homestead entry since the forests were established. Over half of these homesteads were abandoned, even after they had gone to patent. At present there remain no lands available for entry that are both good agricultural lands and close to existing communities.

Homesites

An Act of Congress passed in 1927 permits the purchase by individuals of a home site of not to exceed 5 acres of public land in Alaska at $2.50 per acre. Residence for 3 years to the exclusion of a home elsewhere is required before the land can be patented. The Forest Service blocks out homesites in advance of application to promote orderly development and to expedite settlement. Homesites are laid out in groups around existing and prospective community centers, in order that they may share in road, school, and other public social facilities. Homesites, as laid out, usually average about 2-1/2 acres. When residence requirements are met, the sites are eliminated from the national forest so that patents can issue.

Industrial Plants

Sites on the national forests occupied by industrial plants which represent considerable investments and appear to be permanent can be eliminated from the forest and patented under the Trade and Manufacturing Site Act for Alaska. About 35 tracts have been patented for such use.

Townsites

New community centers as they start to develop are subdivided into streets and lots to insure orderly growth of the town. The lots are rented for a nominal yearly fee until the population is sufficient to maintain a town government. Then the area is eliminated from the national forest so that titles may be obtained under the general townsite laws. About 15 towns and additions to towns have become established in this way in the national forests. Considerable land near towns and cities formerly in the national forests has been restored to public domain status for disposition under the public land laws by the Department of the Interior.

Roads and Trails

An extensive road and trail system is being built to make the forests more accessible. It is financed from direct Federal appropriations and from funds received from the sale of timber and other resources, 10 percent of which can be so used under the law. Substantial contributions to such improvements have been made by the Territorial government. The roads connect isolated agricultural settlements, small towns, and mining districts with the principal towns and the water highways. The trails open up new regions for mineral prospecting, recreation, and other developments. Approximately $23,600,000 had been spent in accordance with Forest Service plans for such roads and trails to June 30, 1952.

FORESTS OF THE INTERIOR

The interior white spruce-birch forests, which are frequently mixed with balsam poplar, extend northward from the coastal mountains to the Arctic tundra. Such forests also extend across Canada to Labrador and Newfoundland, and south into the northeastern States. The best of these stands in Alaska occur on the lower slopes of the river valleys, such as the Copper, Matanuska, Susitna, Kuskokwim, Tanana, and Yukon and their main tributaries. In this region of cold winters, the annual rainfall is only 10 to 20 inches. The dry climate and the long summer days result in a high fire hazard. Many of the original forests have been burned over since the gold rush of 1898, and the second-growth stands continue to suffer from repeated fires.

No accurate figures are available regarding the amount of forest cover. About 116 million acres have enough tree growth to be classed as forest land. On an estimated 25 million acres still unburned, the timber stand totals nearly 200 billion board-feet.

The white spruce and birch grow slowly in comparison with the coast forests. Spruce 18 to 24 inches in diameter and up to 100 feet in height occurs where fire has been absent, but the more common size is 8 to 12 inches and 40 to 50 feet in height. The trees are usually limby. Paper birch 10 to 14 inches in diameter is found on the better sites, and may have a clear length of 30 to 40 feet. These stands are used locally for mine props and timbers, house logs, and sawed lumber.

The dwarfed black spruce forms dense thickets on boggy flats and swamps. It seldom exceeds 6 inches in diameter, and a tree 2 inches in diameter may be 100 years old. Other species of no present commercial timber value include quaking aspen, balsam poplar, willows, and tamarack.

The paper birch probably has the greatest potential value. The wood is dense and fine textured and finishes well. It is suitable for cabinets, flooring, interior moldings and trim, and woodenware. The larger logs are excellent for veneer manufacture.

These forests are of great potential value as a source of timber for the future development of the region. The existing cover, whether forest or not, is of importance as a habitat for game, fur-bearing animals, and for waterfowl nesting grounds. Too many of these values are being periodically destroyed by widespread forest fires. There is great need for more adequate facilities for controlling fires, and for more cooperation by residents and visitors in preventing and reporting fires.

Administration of the interior part of Alaska, including the forests of the interior, is the responsibility of the Bureau of Land Management, Department of the Interior. This agency fights the fires, issues permits for use of land, sells timber, and administers the laws dealing with disposal of public land. Information on the conditions under which timber is sold, or land is used, may be obtained from the office of the regional administrator at Anchorage, Alaska.

U. S. Department of Agriculture
Forest Service

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